

[cgw235] Atty Dkt No. : CGW-235.1US

PATENT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : George H. Beall and David L. Weidman  
Serial No. : 09/203,166  
Filed : December 1, 1998  
For : ATHERMAL OPTICAL DEVICES EMPLOYING  
NEGATIVE EXPANSION SUBSTRATES (As Amended)  
Examiner : A. Ullah  
Group : 2874

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7/16/02

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that the following papers are being facsimile transmitted to the United States Patent and Trademark Office on the 9th day of July, 2002:

1. Letter (with duplicate copy of papers previously submitted on February 20, 2002 and stamped return receipt postcard; 16 pages)

Total number of pages faxed including this page: 17

7/9/02  
Date

Maurice Klee  
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*Paper #19*

# FAX

**Date:** July 9, 2002  
**To:** Examiner A. Ullah  
Group 2874  
**Re:** ATHERMAL OPTICAL DEVICES EMPLOYING NEGATIVE  
EXPANSION SUBSTRATES (As Amended)  
Application No. 09/203,166  
Filed December 1, 1998  
Ref: CGW-235.1US

Dear Examiner Ullah:

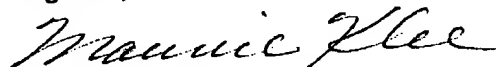
It is our understanding that the papers for the above application which were filed on February 20, 2002 have not yet been entered into the file for this application.

Based on your telephone conversation this morning with my office, transmitted herewith is a duplicate copy of those papers, namely:

1. Rule 607(a) Re-Submission (with attached Exhibits A and B; 13 pages)
2. Certificate of Mailing (1 page)

Also, transmitted herewith is a photocopy of the postcard which was stamped by the Patent Office to confirm receipt of these papers on February 20, 2002.

Regards,



Maurice M. Klee  
Registration No. 30,399

Enclosure

This communication is intended for the use of the addressee and may contain information that is privileged and confidential. If you are not the intended recipient, you are hereby notified that this communication should not be disseminated. If you have received this communication in error, please notify us by telephone at (203)255-1400.

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CERTIFICATE OF MAILING

I hereby certify that the following correspondence attached hereto is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231, on the date below:

1. Rule 607(a) Re-Submission (with attached Exhibits A and B; 13 pages)
2. Certificate of Mailing (1 page; this page)
3. Return Receipt Postcard (1 card)

Date Mailed:

January 28, 2002

1/28/02  
Date Signed

Maurice Klee  
Maurice M. Klee, Ph.D.

[cgw235] Attorney Docket No. : CGW-235.1US

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**RULE 607(a) RE-SUBMISSION****I. Introduction**

The undersigned attorney would like to thank Examiner Ullah for the courteous interview held at the Patent and Trademark Office on January 15, 2002, as well as the telephone interview held on January 23, 2002.

As indicated in the Interview Summary for the January 15<sup>th</sup> interview, the Kashyap et al. and Chu et al. references were discussed at the interview and agreement was reached that for the reasons discussed in the Interview Summary, applicants' proposed amended Claims 52, 60, and 61 overcome the outstanding rejections. Agreement was also reached that the Examiner would enter the proposed amendments to Claims 52, 60, and 61 by an Examiner's Amendment.

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During the January 23<sup>rd</sup> telephone interview, Examiner Ullah informed the undersigned attorney that for an interference to be declared with Fleming et al., U.S. Patent No. 5,694,503, applicant would have to again make the submission called for by 37 CFR §1.607(a). In particular, the Examiner explained that such a re-submission is needed because some of the claims of this application have changed from those that were pending when applicants made their original Rule 607(a) submission on April 30, 1999. The Examiner further said that in making the re-submission, applicants should treat Claims 52, 60, and 61 as amended by an Examiner's Amendment.

For the convenience of the Examiner, attached as Exhibit A is a copy of all of the claims currently pending in this application, with Claims 52, 60, and 61 in their post-January 15<sup>th</sup> amended form. The number of times the claims have been amended since originally submitted, including the amendment of Claims 52, 60, and 61 by the Examiner's Amendment, are indicated for each claim.

**II. Re-Submission Under 37 CFR §1.607(a)**

Applicants submit the following pursuant to the provisions of 37 CFR §1.607(a).

**(1) Identification of the Patent With Which Applicants Seek an Interference – 37 CFR §1.607(a)(1)**

The patent with which applicants seek an interference is Fleming et al., U.S. Patent No. 5,694, 503 (the "503 patent").

**(2) Presentation of a Proposed Count For the Interference – 37 CFR §1.607(a)(2)**

Applicants propose the following count for the interference:

In an apparatus having a fiber grating  
affixed to a device where the device provides

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thermal compensation to the fiber grating, the improvement wherein the device comprises a material having a negative coefficient of thermal expansion, said material being selected so that the device provides thermal compensation for the fiber grating.

**(3) Identification of At Least One Claim of the '503 Patent Which Corresponds to the Proposed Count – 37 CFR §1.607(a)(3)**

At least Claim 1 of the '503 patent corresponds to the proposed count.

**(4) Identification of At Least One Claim of This Application Which Corresponds to the Proposed Count – 37 CFR §1.607(a)(4)**

At least Claims 41 and 61 of this application correspond to the proposed count.

**(5) Explanation Of Why Claim 1 of '503 Patent And Claims 41 and 61 of This Application Correspond To the Proposed Count – 37 CFR §1.607(a)(4)**

Claim 1 of the '503 patent and Claims 41 and 61 of this application correspond to the proposed count for the following reasons.

Claim 1 of the '503 patent and Claim 41 of this application are identical. Both claims correspond to the count since they define apparatus in which a fiber grating is affixed to a device that (1) provides thermal compensation for the grating and (2) comprises a material having a negative coefficient of thermal expansion (negative CTE) which is selected so that the device provides thermal compensation to the grating, as called for by the proposed count.

The terminology differences between these claims and the proposed count do not represent patentable differences. Thus, a "refractive index

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grating" is a "fiber grating," such gratings by definition have "a length and a reflection wavelength  $\lambda$  at a given temperature within an operating temperature range," and a "support member having a negative coefficient of thermal expansion selected such that  $\lambda$  is substantially temperature independent over said operating temperature range" is a device that

(1) provides thermal compensation and (2) comprises a material having a negative CTE which is selected so that the device provides thermal compensation to the grating, as called for by the proposed count.

In each case, the terminology of the count is at least as broad as the terminology of the claim. This is as it should be since it allows both parties and, in particular, allows applicants the opportunity to present their best proofs of priority. See, for example, Kondo v. Martel, 220 USPQ 47, 49 (Bd. Pat. App. & Int. 1983). The use of broader terminology in the proposed count does not result in the count defining a separate patentable invention from that defined in Claim 1 of the '503 patent and Claim 41 of this application.

Claim 61 of this application corresponds to the proposed count since it and the count are identical.<sup>1</sup>

**(6) Application of the Terms of Claims 41 and 61  
To Applicants' Disclosure – 37 CFR §1.607(5)**

The terms of Claim 41 are supported by applicants' disclosure as follows:

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<sup>1</sup> The identity of applicants' Claim 61 with the proposed count is another reason why the proposed count should be adopted as the count for the requested interference with the '503 patent. As stated in Section 2309.01 of the MPEP (Seventh Edition): "A count should normally be sufficiently broad as to encompass the broadest corresponding patentable claim of each of the parties."

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Claim Term	Application of Claim Term to Applicants' Disclosure
An article comprising	Applicants' optical fiber grating device 20 is an article. See, for example, applicants' Figure 1.
an optical fiber with a refractive index grating having a length and a reflection wavelength $\lambda$ at a given temperature within an operating temperature range;	As stated at page 9, lines 7-8, of applicants' specification, applicants' optical fiber grating device 20 comprises an "optical fiber 24 having at least one UV-induced reflective grating 26 written therein." As described at page 11, lines 12-14, of applicants' specification, the grating can be formed by stripping a length of coating from the fiber and then exposing the stripped fiber to laser radiation. As shown in, for example, applicants' Figure 8, the grating has a reflection wavelength $\lambda$ at a given temperature within an operating temperature range, e.g., applicants' grating has a reflection wavelength of 1565.5 nm at 20°C.
wherein the optical fiber is attached to a support member,	As shown in, for example, applicants' Figure 1, applicants' optical fiber 24 is attached to a support member 22.
said support member having a negative coefficient of thermal expansion selected such that $\lambda$ is substantially temperature independent over said operating temperature range.	As discussed at, for example, page 9, lines 6-7, of applicants' specification, the support member is composed of "a negative expansion material." As shown by, for example, the upper curve of applicants' Figure 8, the negative expansion material is selected such that the reflection wavelength $\lambda$ is substantially temperature independent over the grating's operating temperature range.

The terms of Claim 61 are supported by applicants' disclosure as follows:



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Claim Term	Application of Claim Term to Applicants' Disclosure
In an apparatus having a fiber grating affixed to a device where the device provides thermal compensation to the fiber grating,	As shown in, for example, applicants' Figure 1, applicants' apparatus 20 has a fiber grating 26 affixed to a device 22 that provides thermal compensation to the fiber grating.
the improvement wherein the device comprises a material having a negative coefficient of thermal expansion, said material being selected so that the device provides thermal compensation for the fiber grating.	As discussed at, for example, page 9, lines 6-7, of applicants' specification, device 22 is composed of "a negative expansion material," i.e., a material having a negative coefficient of thermal expansion. As shown by, for example, the upper curve of applicants' Figure 8, the negative expansion material is selected so that the device provides thermal compensation for the fiber grating.

Of the remaining claims of Exhibit A (i.e., Claims 42-50, 52, and 54-60), Claims 42-50 correspond to Claims 2-8 and 13 of the '503 patent. Exhibit B hereto is an annotated copy of these claims showing how their terminology is supported by applicants' disclosure.

The remaining claims use the terminology of applicants' original specification and claims. In particular, Claim 52 is based on original Claim 26, and Claims 54 and 60 are based on original Claim 30. Claims 52 and 60 include a "material selection" limitation like that added to Claim 61 by the January 15<sup>th</sup> Examiner's Amendment, while Claim 54, as amended on April 9, 2001, requires that the negative expansion substrate "provides thermal compensation to the grating." Claims 55-59 are copies of various of applicants' original claims (some rewritten in independent form) and use exactly the same terminology as applicants' specification.

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(7) **Explanation of How the Requirements of  
35 USC §135(b) Are Met – 37 CFR §1.607(6)**

The requirements of 35 USC §135(b) are met for Claims 41 and 61 since, among other things, the original filing of these claims took place on December 1, 1998, i.e., within one year of the December 2, 1997 issue date of the '503 patent.

III. **Conclusion**

In view of the foregoing, applicants respectfully submit that this application is in condition for the declaration of an interference with the '503 patent with the count of the interference being the proposed count set forth above. Early action in this regard is respectfully requested.<sup>2</sup>

Respectfully submitted,

Date: 1/28/02

Maurice Klee

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<sup>2</sup> No extension of time is believed to be necessary for the filing of this paper, but if such an extension of time is required, applicants request that this be considered a petition therefor. The Commissioner is hereby authorized to charge any fees which may be required for such an extension to Deposit Account No. 11-1158.

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